

We claim:

1. A triggered response composition comprising: one or more polyelectrolytes in contact with an aqueous system that is stable and insoluble in an aqueous system at relatively high ionic strength and that exhibits one or more
5 chemical/physical responses selected from dispersing, disintegrating, dissolving, destabilizing, swelling, deforming, softening, flowing and combinations thereof upon one or more ionic strength changes to the aqueous system; wherein the polyelectrolyte comprises (a) 70-99 weight percent of an alkali soluble/swellable emulsion polymer as a first stage; and (b) 1 to 30
10 weight percent of a more cross-linked alkali soluble/swellable emulsion polymer or a non-alkali soluble/swellable emulsion polymer as a second stage.
2. The triggered response composition according to claim 1 wherein the
15 composition is stable and insoluble in an aqueous system at relatively high ionic strength and wherein the composition disperses, dissolves, swells or disintegrates in an aqueous system at relatively low ionic strength or when the ionic strength of the aqueous system in contact with the composition is lowered.
- 20 3. The triggered response composition according to claim 2 wherein the aqueous system is a fabric washing or cleaning system and wherein the chemical/physical response of the polymers is a function of changes in one or more parameters in addition to ionic strength selected from: pH, surfactant
25 concentration level, temperature, mechanical agitation and the combinations thereof.
- 30 4. A triggered response barrier composition comprising: one or more polyelectrolytes in contact with an aqueous system, wherein the barrier composition surrounds, encapsulates or forms a matrix with one or more active ingredients; wherein the barrier composition is stable and insoluble in an aqueous system at relatively high ionic strength; wherein the barrier

exhibits one or more chemical/physical responses selected from dispersing, disintegrating, dissolving, destabilizing, swelling, deforming, softening, flowing and combinations thereof upon one or more ionic strength changes to the aqueous system; wherein the barrier composition is capable of releasing the active ingredients to the aqueous system as a result of the triggered response; and wherein the barrier has improved mechanical strength and wet strength.

5. The triggered response barrier composition according to claim 4 wherein the barrier composition is in the form of a film and the polyelectrolyte is one or more multi-stage polymers comprising (a) 70-99 weight percent of an alkali soluble/swellable emulsion polymer as a first stage; and (b) 1 to 30 weight percent of a highly cross-linked emulsion polymer as a second stage.

6. The triggered response barrier composition according to claim 5, wherein the barrier composition is stable and insoluble in an aqueous system at relatively high ionic strength and wherein the composition disperses, dissolves, swells or disintegrates in an aqueous system at relatively low ionic strength, wherein the aqueous system is a fabric washing or cleaning system and wherein the chemical/physical response of the polymers is a function of changes in one or more parameters in addition to ionic strength selected from: pH, surfactant concentration level, temperature, mechanical agitation and the combinations thereof.

7. A device for the triggered release of one or more active ingredients to an aqueous system comprising:

(a) one or more active ingredients;

(b) one or more additives; and

(c) a barrier composition comprising one or more ionic strength responsive multi-stage emulsion polymers;

wherein the barrier composition surrounds, encapsulates or forms a matrix with one or more active ingredients; wherein the barrier composition is stable

and insoluble in an aqueous system at relatively high ionic strength; wherein the barrier exhibits one or more chemical/physical responses selected from dispersing, disintegrating, dissolving, destabilizing, swelling, deforming, softening, flowing and combinations thereof; wherein the chemical/physical response of the composition is triggered upon one or more ionic strength changes to the aqueous system; and wherein the device is capable of releasing the active ingredients to the aqueous system as a result of the triggered response of the barrier composition.

8. A process for triggering the release of one or more active ingredients to an aqueous system comprising the steps of:

(a) Surrounding, encapsulating or forming a matrix with one or more active ingredients with an ionic strength responsive barrier composition, the barrier being substantially impermeable to releasing the active ingredients to the aqueous system and remaining insoluble in the aqueous system; and

(b) altering the ionic strength of the aqueous system;

wherein the barrier composition disperses, disintegrates, dissolves, deforms or swells and becomes substantially permeable, thereby triggering the release of the active ingredients into the aqueous system.

9. The process according to claim 8 wherein a device for the triggered release of one or more active ingredients to an aqueous system is prepared, the device comprising:

(a) one or more active ingredients;

(b) one or more additives; and

(c) a barrier composition comprising one or more ionic strength responsive multi-stage emulsion polymers;

wherein the barrier composition surrounds, encapsulates or forms a matrix with one or more active ingredients; wherein the barrier composition is stable and insoluble in an aqueous system at relatively high ionic strength; wherein the barrier exhibits one or more chemical/physical responses selected from

dispersing, disintegrating, dissolving, destabilizing, swelling, deforming, softening, flowing and combinations thereof; wherein the chemical/physical response of the composition is triggered upon one or more ionic strength changes to the aqueous system; wherein the device is capable of releasing the active ingredients to the aqueous system as a result of the triggered response of the barrier composition; wherein the device is prepared using coating technology selected from the group consisting of fluid bed spray coating, Wurster coating, Pan coating and co-extrusion, coacervation, spray drying and spray chilling; and optionally, wherein one or more beneficial liquid ingredients are co-granulated with one or more solid active ingredients in the form of solid granules, pellets, tablets, encapsulated granules, sachets, matrix beads and capsules.